



University of Hawai'i at Mānoa

Hawai'i Natural Energy Institute

School of Ocean & Earth Science & Technology

Wind, Sun, Palm Trees and Green Slime

For renewable energy, Hawaii would seem to have it all. What is best for us here by way of replacing costly fossil fuels isn't, however, really all that simple. The economics of wind power with its intermittency and aesthetic drawbacks isn't attractive without big federal subsidies. Solar water heaters are a no-brainer. Solar photovoltaics begin to look much better but less attractive when net metering is excluded.

Ethanol and biodiesel from land crops are needed to replace oil as transportation fuels unless we go to plug-in hybrids as the commuter vehicle of the future. Heavy vehicles and ships will still need diesel which currently is imported at the rate of a million bbls per year. Oil palms, not soy beans or rapeseed, are the most productive land plant. Marine algae are much more efficient users of land and require no fresh water.

How much land area do we need for the renewables or, for that matter, for alternatives like nuclear power and how much will all of it cost?

Barry Raleigh

Researcher

Hawaii Natural Energy Institute

Tuesday, October 3, 2006

3:15 – 4:15 PM

HIG Auditorium, Room 110

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